

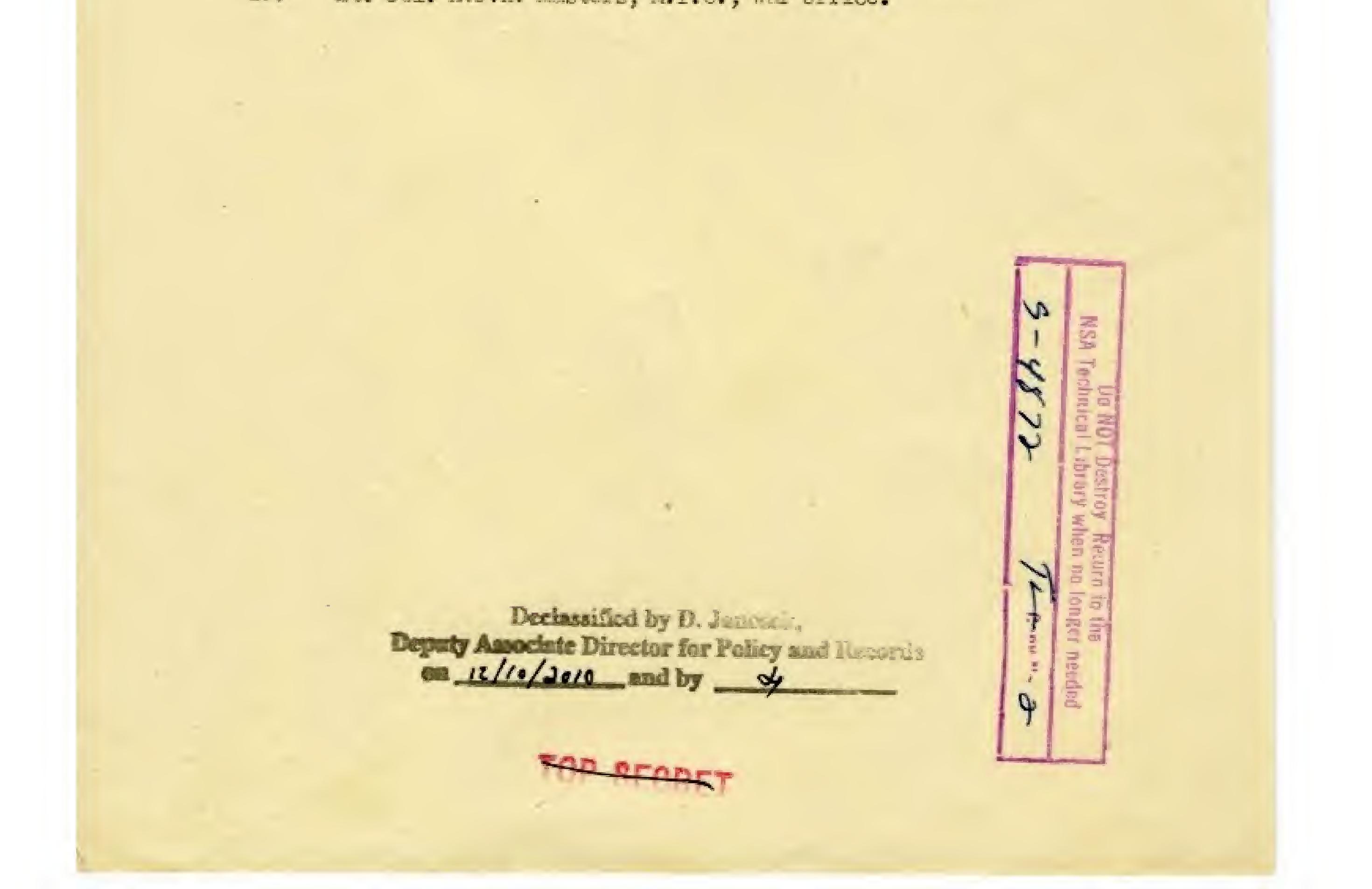
Attached is a report prepared by A.A.S. Europe on the interrogation of George RUCKHEIM, former member of the G.A.F. Signals Intelligence Organisation, carried out by the Assistant TICOH representative at GOETTINGEN on 15th-17th February, 1949.

Ticon. 31st May, 1949

No. of pages 8 Copy No: 14

Distribution.

Director
S
H
J. H
Z. 286
L
L 91
J. J. S. L. O.
Chief, A.S.A. (E)
Gp Capt T.P.F.F. Fagan, D.D.S.(B), Air Ministry.
Mg Wdr L. Poden, Signals 5, Air Ministry.
J.H. Williams, Esq., O.S.E., Signals 6, War Office.
Lt. Col. A.J.H. Masters, M.I.S., War Office.



REPORT OF INTERROGATION OF GEORGE RUCKEMIL.

1. Clearance to interrogate Ruckhoin at his have in Gottingen was received from British authorities on 7 February and interrogation was carried out by the Assistant TICOM Representative during the period 15-17 February 1949.

2. It was found that Ruckheim, at present in the last senester of his medical course at the University of Gottingen, is living with Herr Karl Schraplan, a former technical officer on Ruckheim's staff and now the owner of a photography business in Gottingen. The interviews were held with both nen simultaneously and Schraplan was able to enswer some technical questions on communications that Ruckheim himself had not been concerned with. After the original contact with Ruckheim had been made by Mr. Hudson of the British filst Intelligence Term, the entire interrogation was carried out by the Assistant TICOM Representative at Schraplan's home. This was done at the request of Ruckheim as a means of saving his time, which was limited, and also because he preferred not to visit the British Intelligence Headquarters too frequently.

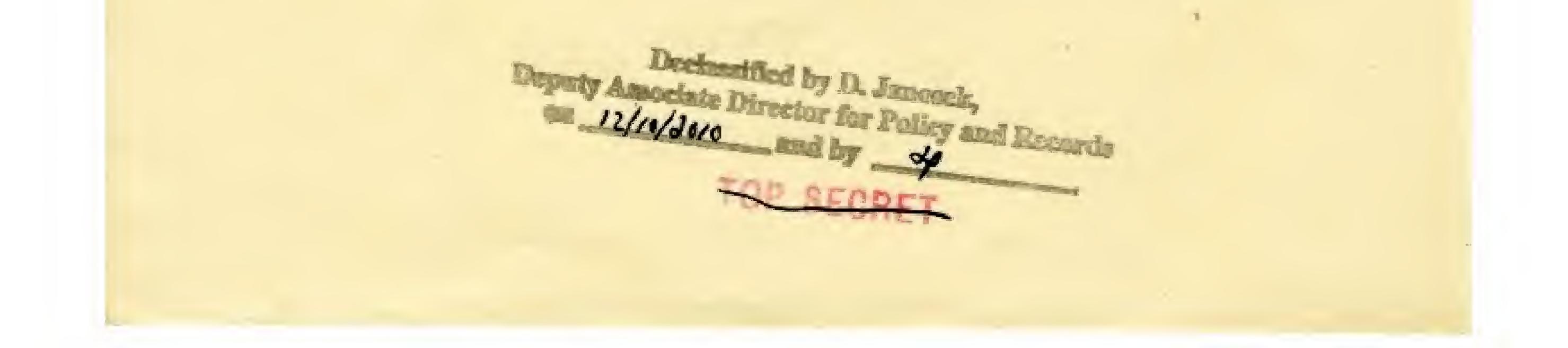
5. Both Ruckheim and Schraplau were extremely co-operative though evidencing considerable curiousity as to how their names had come to the attention of the American authorities and why they were being interviewed by an American rather than a British Representative. It was necessary to reassure Auckheim several times that the interview was being carried on with the knowledge and approval of the British authorities and was in no sense clandestine. It was also necessary to assure both men that the results of the interview would be highly classified, would not be published at any time, and particularly would be kept from Soviet hands. Gottingen is only five kilometers from the Soviet zone frontier, and its inhabitants believe that there is a great deal of agent activity going on in the area, and are naturally apprehensive.

4. In contrast to the usual Comman signal intelligence personality, whose first statement is generally a request for

Allied employment, both Ruckheim and Schraplau made it clear from the start that they sought nothing in return for their information, Both men were now established in their respective fields of interest, and had no intention of returning to signal intelligence for any employer. They felt, however, that, in view of their backgrounds, they would have no alternative if their area should be overrun by the Soviets or succub to a Communist goverment.

• <u>Organization</u>: In regard to the organization of the signal intelligence service of the German Air Force, both men disclaimed extensive knowledge of the composition of the headquarters at the Marstall in Berlin. They know, only in a general way, of its breakdown by sections, of its subordination to the signal service of the Air Force under General Martini, and that it conducted some cryptenalytic research. Of the results of the latter they claim to know nothing except that Ruckheim, during his wortime visits to Berlin, had been told that the German Air Force was always current in its reading of Russian air traffic. Ruckheim, who regarded himself

1......



THE SEGRET

as a tactical or "field" non, expressed a very low opinion of the personnel and organization of the Marstall, referring to them as "bureaucrats" interested more in their personal advancement and fauds than in the production of intelligence. He claimed further that the only time Héadquarters ever had any other than routine contact with his organization was when they were trying to prevent him from taking some nocessary measure. In this connection, it was only the authority of Geering himself, who took a close personal interest in Ruckheim's work, that prevented his removal by his irate superiors in Berlin.

6. As for the organization of the field units, Ruckhein stated that the units varied widely according to their mission and that he was personally familiar only with his own battalion, the "Reich Verteidigung" (Reich Defense). The details of the organization of the battalion escaped his namory both because of the lapse of time

and also because he had not concerned himself particularly with administration but with operations. In any event, both Ruckhein and Schraplau agreed that the official table of organization for the unit bore little resemblance to the actual operating unit. The latter was extremely flexible and was continuously altered to meet changing conditions. The average number of persons employed varied between 700 and 800, counting direction finding stations. Some personnel were on duty for a 12 hour shift, but intercept operators were used for only eight hours. Ruckhein stated his opinion that had he had enough-operators he would have used a six hour shift as he believed that more than that dulled a man's perceptivity. Schraplau stated he believed the unit had had about 500 receivers altogether, but doubted that more than 300 had even been in use at one time.

7. The heart of the unit was the reporting center (Meldekopf). The center was under Ruckhein's cornand, as part f the battalion, and received reports from number of technical sources such as radar stations, as well as signal intelligence reports. The center did not receive reports from civilian or military spotters, as such information was of practically no value. By far the most valuable material came from signal intelligence, and both non agreed that ground radar, for the Germans at least, was completely ineffective both because of the case with which it could be thrown off by "silber Streif" (aluminum foil or "window") and because radar could only report current activity and did not indicate intent as did signal intelligence.

8. The actual intercept and direction finding were carried out by operators who specialized in the particular nets that they covered. Certain operators were detailed for British or American bother traffic, fighter traffic, air field traffic, etc. The general rule was to let a man specialize and then give him free rein in his speciality. Intercept missions were assigned by battalion headquarters rather than by Berlin, and for the last years of the war scarcely varied. First priority went to tactical bother traffic, then in decreasing order to fighter nets, ground-to-ground nets, training traffic

/sesses(which



TOP SECRET

(which was thou ht very highly of for long range planning purposes) etc. merican ferry traffic was followed for a time but was later dropped for missions if higher priority. Training breffic in the United States ms easily conitored, according to Ruckheim, and _ furnished weluchile early clues as to merican procedure, tactics, and state of readiness. Intercept operators were frequently sent up in planes to nomitor traffic that could not be conveniently reached from the ground.

9. Communication letween intercept points and the reporting center and betteen the center and the Fighter Command yas largely by telephone, using cover names and code works which were changed daily. Teletype was used to some extunt, particularly for traffic from the center to Fighter General (r to higher headquarters such as Air Fleet or Luftmarfe hendquarters in Berlin. Cipher teletype was used for tactical traffic, with messages of the highest classification of secrecy being enciphered by the Enigue. Three or four cables were taken over from the Reichpost for this purpose.

10. Radio telephone commication was used extensively between intercept and direction finding units because of the scrittered locations of these installations ranging all the way from Norway to France. The 10 centineter band was used, and a sort of radio deception progress was in effect thereby false D/F communds would be frequently given and false reports sent back.

11. Operations: In operations as in administration, Ruckhein and Schraplan were more concerned with their field unit then with higher headquerters. They either did not know of or thought of no importance the work carried on in the Marstall, Lecording to both men, the only operational contact with their Berlin beadquarters was a northly survery of avaluated traffic which was sent by mil and which they believed had been filed away without further study. No rew traffic br my day-to-ing traffic indysis was sent to the headquarters. No missions were received, nor, so far as either man could recall, my cryptenelytic solutions. (This is only of their on wit that they speak).

12. Traffic analysis was done at battalion level and was utilized locally. It was thought if very highly and was nade the keystone of the early warning service. Of particular interest to the Luftmiffe wert patterns of borber traffic. It was possible by charting traffic volume (which the Germans called "intensity") to predict raids many hours in advance. The Comma learned by experience that different types of operations had different patterns which served as a very roliable guide. Ruchain claimed that the hir operations which were a part of the Invesion in 1944 were necemprized by a cheracteristic traffic pattern, the said pattern which had been noted at the time of the Dioppe raid. He believed that no radio decoption plan could long succeed in suppressing characteristics of so large an operation.

13. Cryptunelysis was also done at hattalion level. Ruddein had a take of four cryptanelysts who had been trained at the Merstall and sent to his unit. The mly system that Ruckhain reactors realing was the "Eonher Code" which was hnear under its initials as "HC". He

/ claimad



claimed that this was read currently and both British and American units used it extensively in air-to-ground and air-to-air traffic. Enciphered weather traffic was also read, and both men asserted that the German weather service relied on their unit to furnish deciphered weather traffic before the Germans issued their own weather forecast. Ruckheir did not remember whether any other systems were read, although he knew that administrative traffic from air fields in England was monitored and read. He did not remember whether this had been enciphered although he supposed it had been.

TOP SEGRET

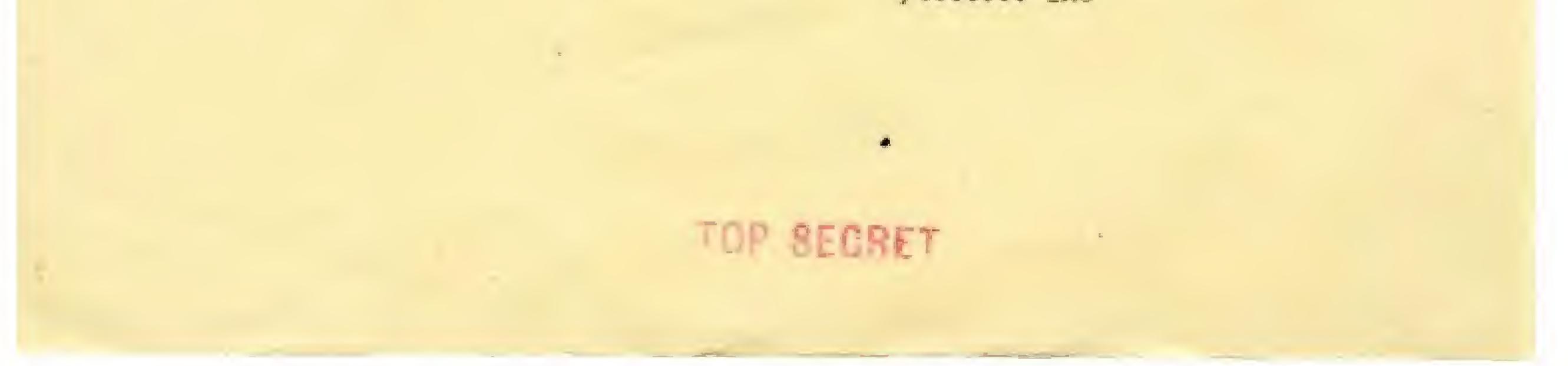
- 4 -

The Germans appriltored and were much interested in Allied L rader, both ground and airborne. Schraplan, who seemed to know more about reder, stated that avery ground radar station in England had been pin-pointed. To nomitor some of these stations it was necessary to set up receiving sites deep in Europe so as to take advantage of the reflected wave. Some of these radar monitoring sitos were as far cast as Russia. Airborne manr was continuously nonitored during raids and constituted one of the nost useful means of tracking planes. Automatic identification devices such as IFF (Identification Friend or Foe) were frequently left on by Allied fliers, particularly Americans, and were very valuable to the Communs. Ruchheim stated that the very heavy losses suffered by the Americans during the Scimeinfurt mid were due to their carelessness with this device. Direction finding berns set up to guide planes to a target were also manitored.

15. Direction finding, both for radio traffic and radar, was of privary importance in tracking allied flights on their routes. When the intercept station at the reporting center picked up a flight, the watch officur at the center automatically toolt over control of the D/F net and a signal was flashed to outlying stations along the D/F base. There were always a largo number of these stations set up at any one time, as Ruchaein explained that local conditions frequently prevented quick reception and recognition of the desired signal. The Allied system of using fixed, crystalcontrolled churnels for mir truffic mided D/P operations enomeously, as the Germans were able to make special D/F receivers using crystals captured firm fallen planes. The use of Allied crystals considerably lessened the problem of getting all receivers promptly lined up on the correct bend. The Corners used letters to represent the various channels available to Allied planes, varying the letters regularly, and the procedure was to flash the correct letter along with the ilert signal to the D/F sites. In a very short interval the bearings would be received and plotted. Schruplan, who aided in the construction of the crystal-controlled D/F receivers, claimed that, because of the brevity of mess ges passed, accurate direction finding of noving aircraft would have been extremely difficult if not impossible had it been necessary for each D/F receiver to search for the traffic with a dirl.

16. The reporting center had the direct responsibility for alerting all organizations in Germany proper when a raid could be expected. This was done directly, by telephone, using abbreviation codes and cover names. Contact was maintained with day and night fighter commands, as well as with the Navy, Army, anti-aircraft artillery, and civil defense. According to Ruckhein, he had the responsibility of deciding which raid was likely to be serious enough to warrant sending up fighters from Germany's limited store. This was decided almost entirely from signal intelligence information.

ShT Lesses



The watch officer of the reporting center was the non who actually gave the countend for the fighters to take off and told they where they would find their energy.

- 5 -

IUP SEGRET

17. Lisison: In regard to lisison between the signal intelligence service and the remainder of the Air Porce, both men thought it had been good on a tactical level. They knew nothing of high level ligison at Berlin, but thought, on general principle, that it had probably not been offective. Linison officers, belonging to the signal intelligence battalion, were attached to Air Fleet headquarters and to whits as far down as group and wing. From reports received from these officers, Ruckheim deduced that the flying units thought highly of information derived from intercepts. Flying officers were also, from time to time, attached to the reporting center to familiarize thenselves with its techniques. This was done with the double purpose of signal intelligence approciation and communications accurity training. In regard to the latter, Ruckheim did not believe he had been too successful, and said that he was cortain that German fliors were guilty of most or all of the breaches of scentity of which Allied fliers were guilty.

18. Thorn was a tochnical linison between the signal intelligence service of the Luftwelfe and the hray, Navy or Forschungsamt, according to Ruckheim, He know, of course, that these organziations were unjaged in signal intelligence, but knew nothing of their achievements and vory little of their organization. There were some privately ande contacts with field units of the Amy and Nevy, but these were never brought to official notice. Schraplan stated that he was shle to get equipment from Amy and Navy supply sources when he could not get it through his regular chouncls, and in particular obtained some receivers from the Navy that he thought were better in some respects then his regular sots. Ruddheim stated that it as possible to get skilled operators transferred from service to service with very little trouble, and that he received such men from both Army and Newy. He did not know whether there had been any administrative problems connected with this, but he recalled none. Both non thought the tratical signal intelligence of the Air Force was the best organized of all.

19. Goering's interest in and close composion with tectical air signal intolligence d tod from late 1942 or early 1943. He visited Ruckheim's hendgurters frequently, cal learned a great deal about the actual operating work. Ruckheim had a very high opinion of Gaering's intelligence and claimed that, although not a technical men in any sense, Geering had a very quick grasp of things, and knew the principles by which signal intelligence worked. Later in the wer, when Allied faids became more frequent and heavier, Geering assund a personal, overall control of the Gemma air defense effort, and always wanted to be kept informed of the progress of raids, what defense measures were being undertaken and what targets were under attack. This information was approachly for planning purposes, for Ruckheim stated that he never ment of an instance in which Goaring actually interfored in tactical operations while they were under way. Contract between Ruckhaim and Geering was direct, by telephone in the clear. Ruckheim would place a call to Berlin on

/ nights



- 6 TOP SECRET

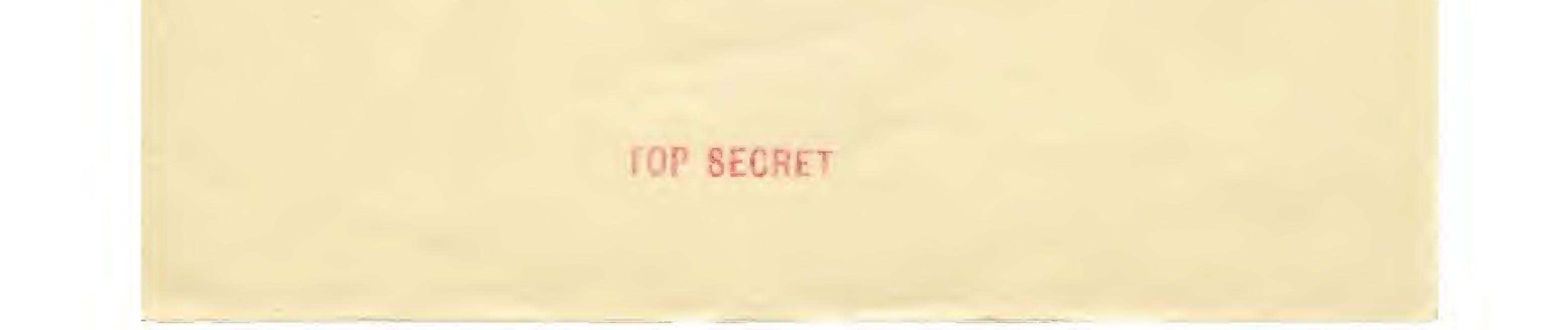
nights when activity was significant, and the Reichpost gave it "Blitz" priority, the highest in Germany.

20. Hitler had also been a visitor and had expressed interest in the work, but had never taken the time to negamint himself with the principles of operation. Ruckheim felt that Hitler's personal command of the German military machine was an unmitigated disaster for Germany as he gave no impleasion of understanding modern war, or modern air war at any rate. Martin Bormann, Hitler's lieutenant, was a more frequent visitor to the reporting conter. Like Geering, Bormann acquired considerable knowledge of the techniques and expressed great interest in them.

General: When Ruckheim was queried as to his opinions on 21. Allied operations and what Allied actions contributed most to the success of the Genun signal intolligence effort, he replied at some length. In addition to carelessness in leaving TEF and radar devices on when not needed, a hebit which he attributed note to Americans then the British, he thought both air forces would have to give thought to the practice of giving mavigation instructions in groundto-cir or dir-to-air traffic. Most large reiding flights carried navigators and equipment in load planes only, and other planes of the flight were constantly requesting and getting from the lead plane information as to their location, their direction, and other data. This furnished the Gummas with a running account of the flight, strength, intent, etc. Some times German D/F equipment would show that the Allied navigators were in error in their reakening. In those instences Ruckhein was glad his intercept operators had no transmittors available, or the temptation to radio correct positions would have been considerable. Another Allied practice that night have been extremely costly if the Gammas had had more fighter howers or fast attack botters, was the carrying on of extensive tower to plane traffic. This was charted and always rose we a peak at the point of take-off or landing. If the Gennuns had had suitable planes it would have been easy to disputch smill groups to attaik the formations of heavy planes at the noment of take off or landing, duen they were chost helpless. In this comection the development of additional ground control equiptent merely means nore traffic to monitor and a nore sure knowledge of energy operations. Ruckhein expressed the opinion that the current air lift to Berlin provided a wonderful opportunity for the Soviet to monitor British and Merican air field procedure and traffic and to build up experience in traffic patterns. When asked if he thought this was being dome, he disclaimed any knowledge of current signel intelligence trends cayabere, but stated that he knew that some German personnel familiar with Luftwaffe practices were in Russinn hands.

22. Both Ruckheim and Schreplan were unwilling to discuss personalities by no.e. They appeared to believe that to disclose what they know of persons who had worked in their organisation would subject these people to unwanted interrogation. They did disclose that some mentions of their former organisation are living in Heiligenstadt, a small town in the extreme southeastern tip of the British zone of occupation. In an unguarded moment, Schreplan indicated that members

1 02



TOP SECRET

- 7 -

of the organization keep in close touch with each other, and went on to say that it was very probable that when the new West German state is established, as is expected fairly soon, it will want to undertake some "observations" of traffic in its territory, and it would be wrong to compromise the persons who might be engaged for this work. This is the first indication that has some to this headquarters of any intent on the part of the Germans to resume signal intelligence activities.

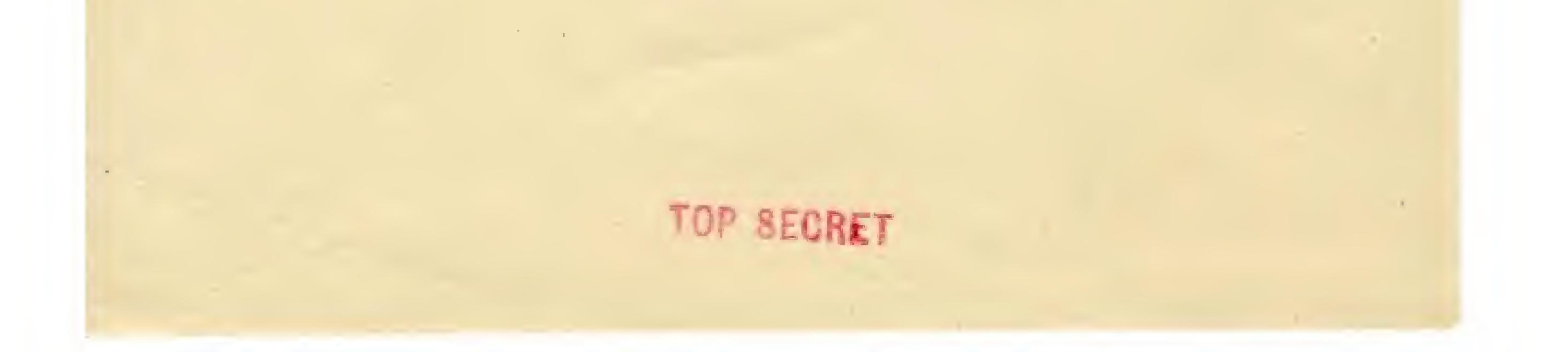
23. Both Ruckheim and Schreplau attempted to draw the interrogator out as to whether the United States had any information on new developments in the signal intelligence services of South American countries, notably Argentine. Schreplau implied that he had heard that certain German exports in this field had left Germany for that country, and were in all probability assisting in softing up or reverping intercept activities there. He refused to be more specific then pressed on this point.

24. In addition to information about the later development of the signal intelligence service of the Luftweffe, Ruckheim also disclosed the or two earlier achievements which have some historical interest. In August 1939, he was sent with an intercept plateon to the borders of Poland to locate Polish air fields and estimate their capacity and condition. He took three weeks at the job, turning in a detailed report on the Polish Air Force, its numbers and location, and some information as to its plan of defense. This was used a week later by the German Air Force to smash the Polish force to the ground in two days. The job was done largely by direction finding, although the Polish air cipher was read without difficulty.

25. Another signal intelligence achievement with repercussions was the monitoring of British air traffic over Holland in 1940 while Holland was still neutral. The German government protested to the Dutch over alleged British air violations of Dutch neutrality. The Butch rejected the protest as being unfounded, at which the Germans were she to demonstrate that British planes had flown over the country, and could cite precise places and times. Ruckhein believes that this had same weight in the German decision to invade Holland at the time of the May 1940 offensive.

26. Shortly before the interviews terminated, Ruckheim stated that at the close of the war he and the remants of his unit were located at Innsbruck, Austric. Before they turned in to an American POW coup, he gethered together a few documents and turned then over, with instructions to conceal them and hold them, to someone he knew who lived in the area. These included his "guest book" or registry of all persons, other than regular personnel, who had access to his operations area. Among the signers are Goering, Hitler, and many other proximent Genern personalities. Other documents include diagrams showing the charting of a typical Allied air raid from the early interception of air field traffic to the assembly, the flight, the attack, the return and the landing. Ruckheim bolieved that this material would be of

Access historical



TOP SECRET

historical interest to the United States and Great Britain, but saw no way to retrieve it from Innsbruck, which is in the French Zone of Austria. He did not wish to write to his friend because he was certain that the mail was being intercepted. He stated that if the United States could retrieve these items, he would have no objection to photographs being made.

